Journal of the Royal Society of Arts

NO. 4887 FRIDAY, 28TH NOVEMBER 1952 VOL. CI

ONE HUNDRED AND NINETY-NINTH SESSION 1952–1953

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A list of Standing Committees for 1952–53 will be published in the next issue of the *Journal*.

FORTHCOMING MEETINGS

MONDAY, 1ST DECEMBER, AT 6 p.m. The last of three CANTOR LECTURES on "*Microbiology*", by P. W. Brian, Sc.D., of Imperial Chemical Industries, Ltd. (The syllabus for these lectures, which will be illustrated by lantern slides, was published in the *Journal* on 31st October.)

WEDNESDAY, 3RD DECEMBER, AT 2.30 p.m. SELWYN BRINTON LECTURE. "*Italian Renaissance Gardens*", by G. A. Jellicoe, F.R.I.B.A., President, International Federation of Landscape Architects. Gordon Russell, C.B.E., M.C., R.D.I., F.S.I.A., Director, Council of Industrial Design, will preside. (The lecture will be illustrated by lantern slides.)

FRIDAY, 5TH DECEMBER, AT 7.30 p.m. FILM EVENING (see special notice).

TUESDAY, 9TH DECEMBER, AT 5.15 p.m. COMMONWEALTH SECTION. A paper on "*Australian Gold*", by J. A. Dunn, D.Sc., F.G.S., Member of the Bureau of Mineral Resources in the Australian Department of National Development, will be read by G. Rudduck, Director of Regional Development, Australian Department of National Development. (Tea will be served from 4.30 p.m.)

WEDNESDAY, 10TH DECEMBER, AT 2.30 p.m. FIRST ALFRED BOSSOM LECTURE. "*Cheaper Building: the Contribution of Modular Co-ordination*", by M. Hartland Thomas, O.B.E., M.A., F.R.I.B.A., M.S.I.A., Chief Industrial Officer, Council of Industrial Design. Howard M. Robertson, M.C., A.R.A., S.A.D.G., President, Royal Institute of British Architects, will preside. (The lecture will be illustrated by lantern slides.)

WEDNESDAY, 17TH DECEMBER, AT 2.30 p.m. "*A Reformed Calendar*", by the Right Hon. Lord Merthyr, T.D., Chairman, British Committee, World Calendar Association. Sir Harold Spencer Jones, M.A., Sc.D., LL.D., D.Phil., F.R.S., Astronomer Royal, in the Chair.

JUVENILE LECTURES

Tickets are now available for the two Juvenile Lectures, suitable for children of twelve years and over, which are being given this year under the Dr. Mann Trust. As already announced in the programme of meetings, the following two lectures have been arranged:

WEDNESDAY, 31ST DECEMBER, AT 2.30 p.m "*Birds*", by Lieut.-Colonel David Wolfe-Murray ("Fish-hawk").

FRIDAY, 2ND JANUARY, AT 2.30 p.m. "*Photography*", by D. A. Spencer, Ph.D., D.I.C., F.R.I.C., Hon.F.R.P.S., Deputy Managing Director, Kodak, Ltd.

Fellows are entitled to apply for tickets to admit one adult and two children to each lecture. In view of the popularity of these lectures they are advised to apply early, stating the exact number wishing to attend on either or both of these occasions.

FILM EVENING

As already announced in the *Journal*, the first Film Evening of the Session will be held at 7.30 p.m. on Friday, December 5th. Three films will be shown.

The Undefeated (35 minutes), which was produced for the Ministry of Pensions by World Wide Pictures Ltd., is of the same genre as "Life in her Hands", which was shown last session. It movingly tells the story of a young glider pilot who lost both his legs and the power of speech during the war, yet was determined to become an active and useful member of the community once more; and how, through his courage and endurance, and the help of others, he was able to achieve his ambition. The part of the pilot is played by Gerald Pearson and the film is accompanied by a monologue spoken by Leo Genn.

The film has gained several awards, including the British Film Academy's award in 1950 for the best documentary from any source.

A Case for Handling (32 minutes), produced by Greenpark Productions Ltd. for the British Electrical Development Association, is a new film emphasizing the benefits which accrue from the adoption of improved methods of materials handling in industry, and illustrating their application in actual practice in a wide variety of trades.

Out of a Chinese Painting Brush (10 minutes) is a colour film produced for the Harmon Foundation and China Institute in America, and shows in a fascinating way the whole process of the growth, stroke by stroke, of pictures by a Chinese painter, Professor Chang Shu-Chi, of Chungking.

Fellows are entitled to bring two friends with them to these films, and light refreshments will be served in the library afterwards at a charge of 1s. per head. No admission tickets are required.

R.D.I.s AND THE NEW REIGN

Several R.D.I.s have received interesting commissions in connection with the accession and coronation of Her Majesty Queen Elizabeth II. The new penny, halfpenny and three-halfpenny stamps, the last-named of which is to be issued next Friday, was designed by Miss Enid Marx, and the scheme for the coronation decorations throughout the City of Westminster has been drawn up by Sir Hugh Casson, who was the designer responsible for the South Bank Exhibition last year. One feature of Sir Hugh's scheme, a triumphal arch in Whitehall, has been delegated to Professor R. Y. Goodden, who has also designed the brocade which will cover the stands and boxes in Westminster Abbey.

THE CENTENARY OF THE SOCIETY'S JOURNAL: A UNIQUE RECORD IN PRINT

The Inaugural Address of the 199th Session by

E. MUNRO RUNTZ, F.R.I.C.S.

Chairman of the Council, delivered on Wednesday, 5th November, 1952

My Lords, Ladies and Gentlemen,

On this very day five years ago Her Majesty the Queen, who was then Princess Elizabeth, honoured us by visiting our House when she was installed as our President. Yesterday the Society was honoured by a letter from Lieutenant-General Sir Frederick Browning, in which he intimated that His Royal Highness the Duke of Edinburgh, was willing to be elected President of this Society in succession to Her Majesty. He was so elected a few minutes ago, at an Extraordinary Meeting of the Council, and we may well congratulate ourselves and expect to be congratulated.

THE ADDRESS

In reading to you this afternoon my address concerning the Centenary of the *Journal of the Royal Society of Arts*, which occurs on the 26th November, 1952, I wish to make it clear that all I have done is to attempt to paint a small picture of the history of the *Journal* collated from information taken from Sir Henry Trueman Wood's *History of the Royal Society of Arts*, published in 1913, and from data supplied to me by the joint authors of our new history in process of compilation, viz., Mr. Derek Hudson and the secretary, and by the staff of the Royal Society of Arts. I gratefully acknowledge my indebtedness.

Like so many good English institutions, the *Journal* seems to have been born unobtrusively. It arose from the Society's desire to aid the Mechanics' Institutes, a type of adult educational body whose origin may be traced back to 1800 when Dr. Birkbeck, Professor of Natural Philosophy at the Andersonian University of Glasgow, initiated courses of lectures for working men at a low fee. This led in 1823 to the establishment of the Glasgow Mechanics Institute, which was followed by the Birkbeck Institution in London, and similar bodies in many provincial centres.

In 1848 the Society, after several years of preliminary discussions, called together a conference on the subject of how to increase the efficiency of the metropolitan and provincial Mechanics' Institutes, having previously offered to admit such institutes to membership of the Society for the same subscription as an individual. After that, annual conferences of the institutes were held for

some twenty years under the direction of the Society, and among other means adopted by the Society to help the institutes in their work were the *Journal*, with which we are concerned to-day, and the Society's system of examinations, which have continued ever since, some 150,000 entries now being received annually.

In the early years of the Society the communications which were addressed to it, together with information about its meetings, were brought to the attention of the public casually and sporadically in various pamphlets, in the book *De Re Rustica*, in *The Gentleman's Magazine* and other periodicals, in an illustrated work entitled *The Advancement of Art, Manufactures and Commerce, or Descriptions of the Useful Machines and Models contained in the Repository of the Society*, and above all in Robert Dossie's *Memoirs of Agriculture and Other Œconomical Arts*.

The first publication which regularly contained a selection of the proceedings of the Society was the *Museum Rusticum et Commerciale*, a monthly Journal, unconnected with the Society, which was published from 1764 to 1766. This was followed by the Society's own *Transactions*, which were published in annual volumes from 1783 to 1844, when there commenced the issue of a publication called *The Abstract of Proceedings*, later to be called *Weekly Proceedings*, which continued until the publication of the *Journal*.

The following paragraph concerning the institution of the *Journal* was included in the Council's Annual Report which was presented to the Annual General Meeting on the 8th June, 1853:

> A very important change has been made in the form and mode and publication of the weekly proceedings, the Council having, after due consideration, determined on the regular publication of a Weekly Journal, which should at the same time include reports of the ordinary meetings of the Society, the proceedings of Committees, correspondence, and memoranda respecting all subjects coming within the range of the Society's operations. In some respects this change has been attended by most valuable results; and from the more varied character of the publication, and its regular appearance once a week, it has gradually become an organ of considerable importance; so that the Council feel fully justified in continuing its publication, and may perhaps even endeavour still further to extend and improve it. As a means of disseminating the information collected by the Society; as an organ for acquainting the members with the proceedings and reports of particular meetings and Committees; and as a medium of communicating with the associated Institutions and their members, the Journal has already proved to be of much value. The Council hope that the organ of correspondence thus offered to practical men will be frequently made use of by the members, because, bearing in mind the very large circulation which the Journal commands, it is evidently a most excellent medium both for collecting and for disseminating information. Its utility as an organ of technical correspondence will probably be more fully appreciated when the members become more accustomed to its appearance.

I will now quote from some advance notes which have been given me by the joint authors of our new *History*:

> A long line of bound volumes in the Society's library, and also in other libraries, testifies that the hopes of the Council in 1853 have been substantially fulfilled. In the course of a century the intervals of publication of

the *Journal* have not greatly varied. Weekly publication was continued until 22nd March, 1940, since when publication has been fortnightly. During the war of 1939–45 the size of the *Journal* was limited, but the only issue in the whole series that is missing is that for 28th February, 1947, whose appearance was prevented by the fuel crisis. The *Journal's* chief aim has remained constant—namely, the publication of the vast mass of information contained in the authoritative papers read to the Society, and of the often most interesting and sometimes entertaining discussions which they provoked. For example, the first thirty volumes of the *Journal* contain reports of more than seven hundred meetings on the most diverse topics—Industrial, Mechanical, Commercial, Hygienic, &c. . . . There has been virtually no limit to the range of subject matter, provided only that there was, in each individual exposition, some germ of progress, some new line of approach that tended to an advancement in human welfare. To the published papers, there have been added reports of the Society's activities; illustrations in the shape of photographs, drawings, maps and diagrams; book reviews; obituaries; miscellaneous notes likely to be of interest to members; and—a characteristic feature—the announcement of "some meetings of other societies". From the beginning the *Journal* has been registered as a newspaper and has contained advertisements—more now than ever in the past—for with its present circulation of about 6,000 copies, the *Journal* is an attractive medium for advertisers.

In addressing the Society as Chairman of the Council in 1890, Lord Alverstone, later Lord Chief Justice, spoke of "the mine of wealth as to the history of invention and scientific research which lay stored up . . . . in the pages of the *Journal*". And when Lord Bennett, the former Prime Minister of Canada, addressed the Annual General Meeting of the Society as its President in 1946, he said: "You wonder how I came to join this Society? I recall one evening in the House of Commons in Canada an old friend of mine, Senator Cantley, then a Member of the Commons, coming and sitting beside me and saying to me, 'Have you ever seen the *Journal* of the Royal Society of Arts?' I told him that I had not much time to read magazines, and he said 'it is the best magazine in the world for it contains more information than any other and it is so useful; I constantly look at it for guidance in my own business'. (He was the Chairman of a Steel Corporation at New Glasgow.) I looked at it often after that . . . ."

Such praise, coming from two men of such distinction, at an interval of more than fifty years, is more than enough to show the continuing value of the *Journal*, and the esteem which it has won for itself, not only in these islands, but all over the world.

Dr. James Booth, LL.D., F.R.S., Vicar of Wandsworth, an ordinary member, first suggested the idea of a weekly *Journal* in a letter addressed to the Council in 1852. In this letter he set out in considerable detail the scheme for a weekly newspaper, which should record all the Society's proceedings, serve as a medium of communication between the Society and the allied institutions and form a permanent record of the progress of science, art and industry.

His proposal commended itself to the Council and after some discussion and consideration it was accepted, the form of the *Journal* settled, and its regular publication commenced, the first number appearing on the 26th November, 1852. This number, after a preliminary notice dealing with the proposed scope and character of the new publication, contained the address of the Chairman (Henry Cole) at the opening meeting of the session, an interesting account of

the Industrial Society of the United States, one of the replies (from British Guiana) to a circular asking for information about the productions and commerce of the Colonies; reports of the proceedings of many of the affiliated institutions, and a list of patents under the New Patent Law Amendment Act of 1852. There were four pages of advertisements, but three of them were the Society's notices. Dr. Booth subsequently became Chairman of the Society of Arts in 1855, having been elected to the Council in 1852 as a result of the suggestion he put forward.

The importance of the *Journal* to the Society, will, I think, warrant my reading to you the editorial article which appeared in the first number and the closing paragraph of the Chairman's Inaugural Address.

(*From the editorial article*)

> The rapid increase which, during the last few years has taken place in the business of the Society of Arts, has rendered it necessary for the Council to make a complete change in the mode of publishing the Society's weekly proceedings, which have, in fact, hitherto contained little more than a condensed account of the papers read at the weekly meetings, and such routine business as from time to time came before the Society. As, however, from the greatly enlarged range of subjects which at present occupy the attention of the Society, and from the many important inquiries which its members are prosecuting, the mere weekly transactions evidently constitute but a small part of the useful labours of the Society, it has been deemed necessary by the Council, to adopt such changes in the weekly publication of the Society, as should render it not merely a record of the proceedings at the Wednesday Evening Meetings, but, in fact, a regular and systematic Journal of the various great and interesting undertakings which the Society is, at present, actively carrying on.
>
> Ever since the Council determined to discontinue the publication of a yearly volume of Transactions, the want of a Journal has been felt and acknowledged, and it has been evident that the printed weekly proceedings did not sufficiently meet this requirement, neither serving as a register of the various important subjects brought before the Society, nor yet even as a means of making the members themselves conversant with the numerous investigations and inquiries carried out by the Committees of the Society. In determining to publish an extended weekly journal, the Council are guided by the fact that while such a paper will prove a more satisfactory means of communicating to the members, and also to the public at large, the proceedings of the Standing Committees, of the Colonial and Foreign Committees, and of the Provincial Institutes Committee, it will, at the same time, also become a means of materially assisting those Committees in the various important matters under their consideration. In no department of the Society's labours, will the new Journal be more useful, than in connection with the General Union of Literary, Scientific and Mechanics' Institutes just formed, and which already numbers 225 institutions in all parts of the Empire, including, in the whole, upwards of 90,000 members. It will be obvious that the Journal will supply a medium of communication with the members of these Institutions, and will offer facilities in the way of correspondence between them and the Society of Arts, far beyond any mere system of correspondence by letter. This, whilst it will diminish the labour of the Committees of the Society, will, it is hoped, at the same time, greatly increase their power of usefulness.
>
> It is only necessary at present further to state, that the *Journal* will be conducted by the Secretary, under the immediate control of the Council; that,

under proper regulations, its pages will be open to contributions on all subjects connected with the progress of human industry, and the encouragement of arts, manufactures and commerce; and that, as far as may be found to be practicable, it will, in addition to the proceedings of the Society of Arts, and the Institutions in Union with it, contain brief notices of the proceedings of other similar societies, and, in general, of all matters of scientific or technical interest. The Council, however, will only consider themselves responsible for as much as is signed by their Secretary by order.

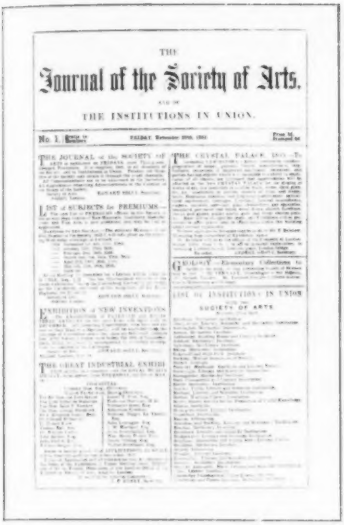
(*From the Inaugural Address*)

After very careful consideration, the Council have determined to make a considerable change in the mode of publishing the Transactions of the Society. It is evident that when the publication of the annual volume is delayed till after the close of the Session, the value of the communications which it contains is seriously diminished by the time thus lost; and this applies with peculiar force to the communications made to this Society, the value of which mainly depends on their novelty, and their immediate publication. The Council believe that the Weekly Journal of the Society of Arts, which will commence this week, will be acceptable to the Members, and at the same time also to the public at large; they trust that, under proper management, it will be of considerable value as a record of the proceedings of the Society, and as a general Magazine of useful information connected with industrial subjects. It is hoped that many of our members will become contributors and correspondents of the new Journal.

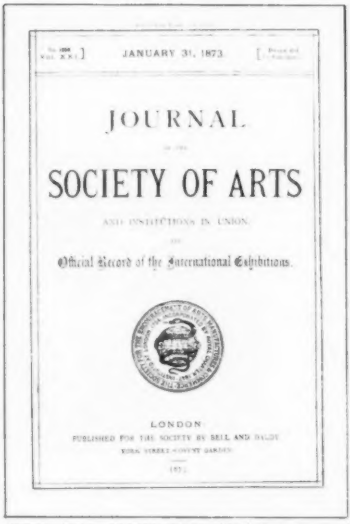
I have arranged for a display of *Journals* on the screen depicting the changes in covers, printing, advertisements and general make-up. I hope that later on you will enjoy inspecting them. In particular I have had pleasure in browsing over three examples dated respectively 1855, 1875 and 1880, and as I have come to the end of Act I of my address, I think a short interlude for light refreshment is necessary and I propose to try to supply it by talking of some of the advertisements which appeared in them.

They are indeed catholic in variety and contrast, and some of them might shock our Assistant Secretary were he called upon to decide whether or not to allow their publication, for they include many commercial advertisements estranged from the dignity of learned societies.

Many of those early advertisers, some of whom still appear in the *Journal* at the present time, bear names which are household words to-day, *e.g.*, among many others:

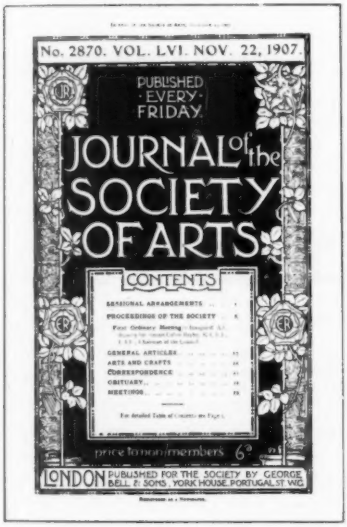
The Atlas Assurance Company.
Hedges & Butler, Ltd.
Price's Patent Candle Company.
Hobbs Patent American and English Locks.
Chubbs' Locks and Safes.
Crossley Bros., Manchester.
Druce & Co.
Madame Tussaud's Exhibition.
Mappin & Webb.
Lea & Perrin's Worcestershire Sauce.
G. Bell & Sons Ltd.
George Kent Ltd.
Longmans Green Co. Ltd.
E. & F. N. Spon Ltd.
The Telegraph Construction & Maintenance Co. Ltd.

THE
Journal of the Society of Arts,
AND OF
THE INSTITUTIONS IN UNION.

No. 1. FRIDAY, November 28th, 1852.


JANUARY 31, 1873.

JOURNAL
OF THE
SOCIETY OF ARTS
AND INSTITUTIONS IN UNION.
AND
Official Record of the International Exhibitions.

LONDON:
PUBLISHED FOR THE SOCIETY BY BELL AND DALDY,
YORK STREET, COVENT GARDEN.


No. 2870. VOL. LVI. NOV. 22, 1907.

PUBLISHED
EVERY
FRIDAY.

JOURNAL of the SOCIETY OF ARTS

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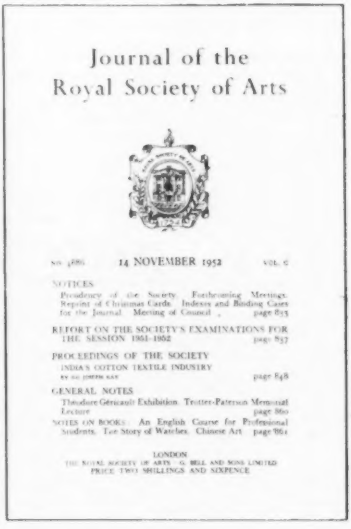
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LONDON
THE ROYAL SOCIETY OF ARTS, G. BELL AND SONS LIMITED
PRICE TWO SHILLINGS AND SIXPENCE

The changing face of the Journal. *The cover used from 1904-1911 was designed by Lewis Foreman Day*

GUTTA PERCHA TUBING,

FOR WATERING GARDENS, &c.

The GUTTA PERCHA COMPANY have been favoured with the receipt of the following

TESTIMONIAL:

From Mr. J. FARRAH, Gardener to BOSWELL MIDDLETON JALLAND, Esq, of Holderness House, near Hull.

"I have had 400 feet of your GUTTA PERCHA TUBING (in lengths of 100 feet each, with Union Joint,) *in use for the last twelve months for watering these gardens, and I find it to answer better than anything I have ever yet tried.*

"The pressure of the water is very considerable, but this has not the slightest effect on the Tubing.

"I consider this Tubing to be a *most valuable invention for Gardeners,* inasmuch as it enables us to water our gardens in about one half the time, and with one half the labour formerly required."

THE ÆOLIAN

IS CONCEDED BY THE WORLD'S BEST MUSICIANS TO BE

THE GREATEST MUSICAL INVENTION OF MODERN TIMES.

This **Unique** and **Wonderful Instrument** is not only adapted to the wants of the **Trained Musician**, but can also be **played by anyone after a few days' practice**; so that every home can have, by means of the "ÆOLIAN," **any piece of music ever written**—from the simple **Psalm** or **Song** to the most intricate **Opera, Waltz, March** or **Dance**. The **Musical Expression**, or Tone Colour, can be varied entirely at the will of the player, the "Æolian" responding as promptly to any change of tempo, or degree of power, as a well drilled Orchestra.

A VISIT TO OUR SHOW-ROOMS WILL BE ESTEEMED A FAVOUR. **Price from £21 to £104**

From Volume I. 13th May, 1853,

and Volume XLII. 7th September, 1894

I hope the following examples of advertisements may amuse you:

> The Cab Driver's Benevolent Association. "Founded to improve the moral and social condition of cabmen."

Billingsgate did not advertise.

> James Woodward (Sanitary Specialists) "recommend their Patent 'Wash Out' Closet"—a trade name that would make no appeal to-day.

> Hedges & Butler "invite attention to the following Wines and Spirits:
>
> | | | |
> |---|---|---|
> | Good Sherry ... ... | 20/- to 42/- | per doz. |
> | Hock and Moselle ... ... | 24/- ,, 60/- | ,, |
> | Fine Old Irish or Scotch Whisky | 42/- ,, 48/- | ,, |
> | Champagne ... ... | 36/- ,, 78/- | ,, " |

> *Groceries:* "Osborne's Peat-smoked Breakfast Bacon has stood the test of epicurean opinion for more than ten years and is pronounced the greatest treat ever yet offered to the domestic circle, and is only 8d. per lb. by the half-side."

> *Tailoring:* "Creed and Cumberland's practical experience as foremen in the first houses in London and Paris, combined with a scientific knowledge of external anatomy and the definite proportions and forms of the human figure give them confidence in soliciting patronage."
>
> "The 16/- trousers reduced to 14/- by B. Benjamin."

> *Abdominal Appliances:* "Ruptures—By Royal Letters Patent. Fitting with so much ease and closeness that it cannot be detected and may be worn during sleep."

> *Chandlery:* "Price's Patent Candles have recently been compelled to proceed in Chancery against two London shopkeepers, whom they had detected in habitually selling the candles of other manufacturers as those of the Company and their attention has been called by respectable dealers as well as by customers to the supposed commission of similar frauds in many other instances."

The *Journal* must have appealed to many as a good medium for advertising, as indeed it does to-day, bearing in mind its wide distribution among some 6,000 members, about twenty per cent of whom are resident overseas—thus the *Journal* is sent into all parts of the world. The circulation almost automatically follows the membership of the Society: in 1853 it was 2,250 and more or less consistently increased until 1873 when it was 4,350. From 1873–1932 it dropped to between 3,000–3,500, but since then has regularly increased to its present figure.

Members may have noted that two-colour advertisements are now permitted and that there is an increasing quantity of what is known as prestige advertising. I believe that our *Journal* is admirably suited for this class of advertisement bearing in mind the number of members and that in all probability many copies are read each by several people.

The original publishers of the *Journal* were Geo. Bell of 186, Fleet Street, and they have remained the publishers to this day.

The first issue of the *Journal* gave the pattern for the future by setting out in full the Chairman's address at the opening meeting of the session. In the subsequent numbers, however, short extracts only from the papers delivered at the Society's ordinary meetings were included. These were followed by summaries of the discussions which followed the reading of the papers. With the second volume of the *Journal*, however, the practice of reporting the papers in full was begun.

During the months between the sessions it was, from the beginning, the practice, in place of papers, to publish either lectures which had been given to some other society or specialized articles written for the purpose. The present practice, however, is to spread the publication of the sessional lectures and papers over the whole twelve months and thus there is now no gap to be filled with external material.

One of the main reasons for starting the *Journal* was to provide a forum for correspondence between the Society and its newly allied institutions. Accordingly the first number contained a section entitled "Union Correspondence". Also included were sections entitled "Foreign Correspondence" and "Colonial Correspondence", which frequently contained letters or reports on local affairs from members living overseas.

The first of these three sections was concerned mainly with domestic questions of an administrative nature. The second and third were also concerned less with correspondence in the popular sense of the exchange of views between readers of the *Journal* than with letters received in connection with the Society's activities.

The first number also contained under the heading "Answers to Correspondents" a "Question Box" which became a regular feature of the new publication.

By the time the third number was published editorial confidence seems to have become sufficiently strong to include under the new heading "Notices to Correspondents" the following: "Several members of the Society have complained of not receiving the *Journal*. In every case, however, it has been found that the blame really rested with the members' servants"!

Correspondence seems to have been a feature of the *Journal* until the end of the last century and then to have become spasmodic. It would, I think, provide additional interest to the *Journal* could the custom be revived, but we are faced with the greatly increased cost of paper and printing.

I think that the *Journal* with respect to the life of the Society may be compared to lines of communication and supply to an army in the field, since without it we should lose touch with our members. Its form and its substance must change as the years roll by and, indeed, it has done so within my short experience, for its cover and set up have been altered frequently since I first became a member in 1939—I think for the better.

As I consider the array of ninety-nine volumes of the *Journal* to which the hundredth will shortly be added, another metaphor comes to my mind. We have all at some time or another had our imagination captured by H. G. Wells' idea of a time machine, and perhaps we have wished that we could have the use of one. Well, here, in these volumes we have a splendid time machine which will vividly take us back in thought and atmosphere to any time during the past century.

Here, for example, in the detailed account contained in the issue for 21st November, 1947, of the installation in this room of our recent President, now our Gracious Queen, we sense all the glamour and excitement of those November days which preceded the marriage of Princess Elizabeth. The issue for 2nd May, 1941, on the other hand, recaptures a grimmer memory, for after announcing that the Society's house had been damaged by enemy action it proceeds to publish a paper by Lord Horder, entitled "The Modern Troglodyte", which describes the air-raid shelter life of London in those terrible days.

Or, again let us give the knob a big twist backwards and come to the year 1894. Here is Sir Hiram Maxim describing to the Society his great experimental flying machine, powered by a steam engine, with which he had momentarily left the ground and proved that heavier-than-air flight was really possible. In recording this interesting meeting the *Journal* shows its value as a time machine, not merely in reporting the inventor's own address but also in recording the views expressed about the experiments by members of the audience. This is what Maxim said in replying to them at the end of the discussion: "At the time I took up this subject it was almost considered a disgrace for anyone to think of it; it was quite out of the question, practically. But at least nine people out of ten are now of the opinion that it will be possible to construct a flying machine at least for warlike purposes—for reconnoitring, carrying explosive bombs into an enemy's country, and so on". I do not need to comment on this prophecy of Sir Hiram's.

As a final example, let us go back to the *Journal* for 30th November, 1877, and read there the account of the demonstration made personally to this Society by Professor Graham Bell of his newly invented telephone. "At the conclusion of the meeting", we read, "some experiments were made with telephones which had been fixed in the room for the purpose and connected with instruments outside. Of these, one instrument was fixed in the Council room, one in the Adelphi Hotel on the other side of John Street, and one at the office of the Society's printer in Gough Square, Fleet Street". It is impossible not to recapture the thrill of such an occasion when, as the chairman, Sir Richard Webster, rightly said, the audience "were witnessing the beginning of an invention destined to produce enormous benefits in our social condition". Naturally, every meeting of the Society has not risen to such heights, but it is certainly true to say that every volume of this *Journal* gives a wonderful contemporary picture of the life and scientific thought of its time.

To conclude I will quote from Sir Henry Trueman Wood's *History* where, referring to the Society, he says:

> Many of their objects were trivial, many of their efforts were futile, but when all allowance is made, the net result is an enormous mass of useful

work, beneficial to the country and serviceable to mankind. Certainly no society has had objects so many or so multifarious. Few can have endured such vicissitudes. It has earned much popularity, or it has incurred its fair share of ridicule. It has been often praised and often blamed, generally with equal lack of reason. It has endured for a period of more than a century and a half, and is certainly as prosperous now as it has ever been. There is no reason why that prosperity should not continue. In the future, as in the past, it will doubtless find fresh fields of activity, and, as it has ever done, change with the changing years, and adapt itself to the fresh conditions of the coming time.

These I think were words of truth and wisdom, and I believe the Society will prosper, provided that it maintains its complete independence of thought and action, and avoids any flirtation with Government control or assistance, whatever party may be in power, but this should not deter the Society from co-operating for specific objects.

At the conclusion of his Address THE CHAIRMAN *proceeded to the customary presentation of the Society's awards. He first presented Silver Medals, for outstanding papers read during the past Session, to the following:*

For Papers read at Ordinary Meetings

Professor L. Dudley Stamp, C.B.E., D.Sc. "*The Reclamation of Abandoned Industrial Areas*"

John C. Pritchard. "*The Changing Character of Furniture*"

For Papers read at Meetings of the Commonwealth Section

V. E. Fuchs, M.A., Ph.D. "*The Falkland Islands Dependencies Survey*"

B. H. Farmer, M.A. "*Colonization in the Dry Zone of Ceylon*"

The following, who had also been awarded Silver Medals for Papers read to the Society last Session, were unable to be present to receive them:

For Papers read at Ordinary Meetings

The Earl of Halsbury, F.R.I.C., F.Inst.P. "*The Work of the National Research Development Corporation*"

Mrs. Constance Spry. "*Flower Arrangement and Display*"

For a Paper read at a Meeting of the Commonwealth Section

D. L. Gunn, D.Sc. "*The Red Locust*"

THE CHAIRMAN *then presented the* THOMAS GRAY MEMORIAL TRUST PRIZE *of £50 to:*

J. Home Dickson, M.Sc., for his "*invention which makes it possible to navigate a ship in fog by means of a direct comparison of a large-scale chart and a Radar Plan Position Indicator.*"

Finally, THE CHAIRMAN *presented the* SIR FRANK WARNER MEMORIAL MEDAL *to:*

Miss Belinda Mary Bleck, *of the Brighton College of Arts and Crafts, for the best design submitted in the Textiles Section of the 1951 Industrial Art Bursaries Competition.*

A vote of thanks to THE CHAIRMAN *was proposed by* SIR ERNEST GOODALE, C.B.E., M.C., *and carried with acclamation. The formal proceedings then ended and the company adjourned to the Library, where tea was served.*

EXTRACTS FROM SOME OF THE HUNDRED VOLUMES

Standing tightly packed in a library bookcase, a set of the uniformly bound volumes of the *Journal of the Royal Society of Arts* may appear somewhat sombre and uninviting. But take any volume down and turn over its pages and it will soon reveal contents of the most unexpected and fascinating kind. The object of the following collection of extracts is to enable the reader, as it were, to do just that—to open a volume here and there, and pause at something which catches the eye because of its immediate interest. Although the selection has been made largely at random, it has also been the intention to make it representative of the various categories of matter contained in the *Journal* and of the great variety of subjects with which it deals from time to time, and it is hoped that, while interesting and entertaining the reader, it may also tempt him to search further for himself.

VOLUME I. *28th October*, 1853

Most issues of the Journal *open with Notices to Fellows, and it seems appropriate to begin this collection of extracts with a Notice on the* Long-Haired Angora Goat.

The Council has for some time past had under consideration a communication from the Swellendam Agricultural Society, relative to the introduction of the long-haired Angora goat into the colony of the Cape of Good Hope, with the view to the export of its wool to Europe; which was transmitted, through the Colonial Office, to His Royal Highness Prince Albert, K.G., the President, by whom the Council has been requested to obtain the information desired.

It would appear from the statements of Messrs. H. Vos and W. M. Hipley, sen., that, in the year 1838, Colonel Henderson (with whom Mr. Hipley, sen., formed a partnership) imported a small flock of long-haired Angora goats into the colony. This flock consisted of forty originally; of which only *one* she-goat (which never bred) and twelve rams arrived at the Cape; and of these only *one* he-goat (born on the road) was fit for propagation, the rest having been purposely emasculated in some way or other. They were sent overland from Angora to Smyrna, thence to Constantinople, Alexandria, Suez, Arabia, Persia, Bombay, and the Cape. These goats are said, on their arrival, to have stood the enterprising importer in an exorbitant sum. The reason for obtaining them by this circuitous route, as well as the enormous cost, have not been ascertained. From this goat, and its progeny, half-breeds and crosses of various descriptions have been propagated, and the health and weight of carcass of the cross breed has made them to be universally sought after by proprietors of goat flocks; but owing to the want of a sufficient number of thorough-bred goats, the cross-breed is fast disappearing. The improvement not having been carried to a sufficient extent, the value of the fleece, whether it be called mohair, tiftik, or goat's-hair, has never been ascertained. The information required by the Swellendam Agricultural

Society is, whether a breed of goats exists in Angora, bearing only one description of hairy covering of a silken fineness, which can be annually clipped?—whether such fleece is purchased in Europe, as it comes from the goat's back, and without requiring the expensive picking process which Cashmere or Thibet, or other shawl wool containing an under down, must undergo?—also, what the value of such fleeces would be per pound?—and whether any large quantity of it would be required by the European manufacturers?—and whether this description of goat could be obtained *viâ* Constantinople, and sent to the Cape, at a reasonable expense?

Members of the Society and others are requested to aid the Council in procuring the desired information. And if satisfactory answers can be given to the above queries, there is little doubt but that efforts will be made by which, in a few years, a large quantity of goats' wool would be added to the exports of that colony, as there are in that district many proprietors possessing from one to two thousand goats, which are bred merely for the sake of the skin and flesh.

VOLUME II. *18th November*, 1853

From Miscellanea: Communication Between the Guard and Driver of a Railway Train.

Captain Norton proposes that a Whistling Bolt or Arrow, without feathers, should be shot from a steel cross-bow by the guard of the train, a few yards in a direct line over the head of the engine driver, who should have a shield or a screen behind, reaching a foot above his head. The guard could place the bow on the roof of the carriage in his front—in a position marked out, so that every shot would follow the same tract, without the necessity of raising the bow to his shoulder or taking any aim.

VOLUME IV. *14th March*, 1856

From a Paper on Recent Progress in Design, as applied to Manufactures *by* George Wallis.

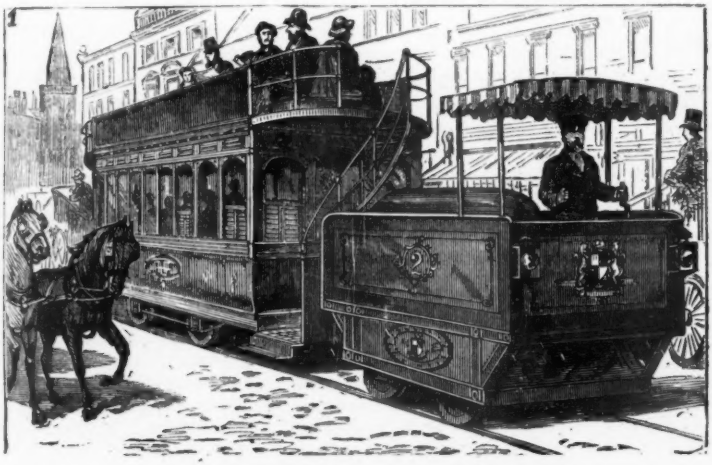
For some years past efforts have been made to impress the manufacturers of this country, as producers, and the people as consumers, with the value of art as applied to trade; and although the former generally repudiate all interference between them and their customers, yet it so happened that some 20 years ago the utter neglect of almost everything which tended to give refinement to the forms in which articles of every-day use were furnished to the public, attracted the attention of a few artistic and scientific busybodies, who could not understand why ugliness should be so much more economical than beauty, and who even had the hardihood to declare that the latter was as cheap as the former, and *much better!* Strange to say, recent experience has confirmed these people in the conviction thus expressed, and has even carried them further, for they now declare that beauty is much *cheaper* than ugliness, when the principles of art are understood and judiciously applied. It is scarcely to be supposed, however, that everybody is as yet convinced even of the truth of the theory that beauty is as cheap as ugliness; but we certainly have progressed to the point at which art, as applied to manufactures, is really

thought to be worth something, since in nearly all manufacturing pursuits into which decoration enters as an element, there has been an attempt, more or less successful, to improve upon past forms and embellishments. It has been found, too, that the markets have not stagnated because goods were a little prettier than formerly, and it has even been hinted at, though this is looked upon with suspicion as a dangerous commercial heresy, that public instruction in art, by means of lectures, schools of art, art publications, and the free access to galleries of works of art, has had something to do with this change, which it is now confessed has come over the spirit of the home market, in relation to the ornamentation of articles of every-day demand.

VOLUME IV. *21st March*, 1856

From the reports of the Proceedings of (*local Adult Education*) Institutions, *which formed a regular feature of the* Journal *for many years.*

Deptford. A lecture on "Love" was delivered at the Literary and Mechanics' Institution, by Mr. E. J. Reed, one of the editors of the *London Mechanics' Magazine*, to a numerous audience, on Wednesday evening, March 12. The subject, of delicate interest to all, was eloquently and philosophically discoursed upon by the lecturer, who also read, with much taste and effect, several of the best pieces on the subject from Tennyson, Coleridge, Bailey, and others. The reading of a long scene from Bailey's "Festus" was the only point in the whole of the Lecture which failed in giving entire satisfaction to all present. The lecture was full of beautiful similes, and poetical descriptions; and the members hope, ere long, to enjoy a similar treat from the same gentleman.



THE BEAUMONT COMPRESSED AIR ENGINE.

Volume XXIX. 18*th March*, 1881. *From a Paper on* The Beaumont Compressed Air Locomotive for Tramways, Railways, etc., *by* Colonel F. Beaumont, R.E.

VOLUME X. *27th June*, 1862

From the report of the Speech by the Chairman, The Right Hon. W. E. Gladstone, M.P., Chancellor of the Exchequer, *at the Society's One Hundred and Eighth Anniversary Dinner.*

It was, therefore, in a dark period that the founders of this Society set themselves to their work; and those who now contemplated with admiration the immense developments which this age had seen, and who regarded with confidence the future progress which would be achieved (because in these developments was contained the promise of the future), must not forget through what difficulties, in their early stage, those developments were accomplished. Let them look back with gratitude and something of reverence to those who must have acted upon a principle applicable to human things as well as to divine—he meant that principle of faith which enabled men, conscious of high and beneficial purposes, to look beyond, and to overcome the difficulties of the moment, and to sow the seed, the fruit of which was to be borne in following and even distant generations. He might also notice, especially with reference to the presence of so many of their foreign friends, that it was to no patronage, to no countenance of the state, to no large profusion—indeed, to no application, whether large or small, of the public treasure, that this Society owed the means by which it had achieved this work. It had been from the first—in its infancy, in its youth, and in its maturity—the spontaneous offspring of private intelligence, and had reflected in its proceedings, as a voluntary institution, all the features of the English character.

VOLUME XII. *6th May*, 1864

From Correspondence: Vacant Niches in London.

Sir,—You may recollect, as I do, a caricature by Gilray, called "More pigs than teats", in which the government of that day was represented as the lady pig recumbent in the straw, and the place-hunters by a whole army of little pigs, far more in number than the teats and places they sought. This is as good as one of Æsop's fables, and I suppose will live as long. It is, however, to the reverse of this tableau that I would refer, viz., to a case in which there is a superabundance of places vacant and unoccupied—to that of the many architectural niches throughout London vacant of the features they are fitted and were originally destined to hold. It is not requisite to cite instances, for a short walk through any part of London will supply plenty. A niche is evidently an incomplete feature without a vase or a statue in it, and yet I doubt whether one-fourth of the niches in the buildings of London are occupied, and this although we may be quite sure that in the original designs, submitted and approved, of these buildings they were religiously filled with sculpture. The truth is, sculpture is used as a bait in decorating architectural designs, especially in competition, but when the design is fixed on then come the details of estimate and contract, &c., and then the first thing "knocked off" is the sculpture. It is not essential, they say, to the uses of the structure, and it can be done at any time, meaning, no doubt, that it should be done at some time, but in the event it never does get done, for unexpected extras come in, and the committee are at the end of their funds. Assuredly an unoccupied niche in a building is an absurdity as well as a shortcoming, and yet there are a vast number of them in London. In some cases they

afford excellent situations for statues, for the subjects of which we cannot be at a loss while the fact exists, which it does I am told now, that neither Shakspeare, Milton, Newton, Cromwell, Locke, nor a number of our other worthies have tributes of this kind in London. Now, might not this subject fall legitimately within the province of the Society of Arts to suggest and give their countenance to, viz., the completion of some of our public buildings, by thus supplying the features originally contemplated in them, and honouring some of our worthies, who, if they had been Italian, German, or French, would long ago have had this tribute accorded them; by which means also art would be encouraged? Our bridges also have many pedestals unoccupied, as also many other architectural situations in London, among which prominently stand the four great pedestals in front of the British Museum, which were intended, I am told, to receive the statutes of Shakspeare, Bacon, Newton, and Locke, but there the great unmeaning blocks have now stood for years without any excuse. To fill these niches and crown these pedestals might surely meet with some response if put properly before the public; and if marble and bronze were in some cases too expensive, then iron, stone, or terra cotta afford, I believe, nearly as good art at a lower rate.—I am, &c., COMPLETE YOUR WORK.

VOLUME XVIII. 11*th March*, 1870

From a Paper on Tramways for streets and roads, and their sequences, *by* W. Bridges Adams.

One day I was driving to town in a very small Stanhope, drawn by a very small cob, and was stopped by a crowd at the intersection of Gower-street and the New-road. The cause of the crowd was the first omnibus introduced in London on the line of the New-road, and people had not yet understood that its object was to carry chance passengers for long and short distances along the line of route. The conductor was touting for custom, in the mode now grown common, but people did not understand the then new process. Gradually I drew nearer and caught the conductor's eye, which instantly lighted up with mirth, as he pointed to his large but empty vehicle. "Drive in, sir; there's room for all three on ye—you, and the 'oss, and the shay".

How these omnibuses increased in number, from the first lumbering French pattern, is well known, but we scarcely reflect on the large part they have played in civilisation. For the first time, poor and well-to-do men and women sat down side by side, and looked inquiringly into each other's faces, making the discovery that humanity dwelt equally under the coarse garb and the more expensive clothing. Classes, first, second, third, and parliamentary, were invented for the railroad, but there was no class, save all classes, in the omnibus. The chief distinction was between dirty and clean classes, and the dirty soon began to learn the lesson that dirt was not in itself desirable, but the contrary; and many began to imitate, as far as in them lay, the habits and customs of the cleanly. There was one favourable condition which descended from the stage-coaches; the smoking tribes were rigidly excluded from the interior, and took to the outside —a common-sense arrangement. But there was no assumption of superiority amongst the riders, and the lesser educated could listen to the conversation of the better educated, while they in turn could feel curiously interested in the language, habits, and customs that were new to them in their freedom and quaintness.

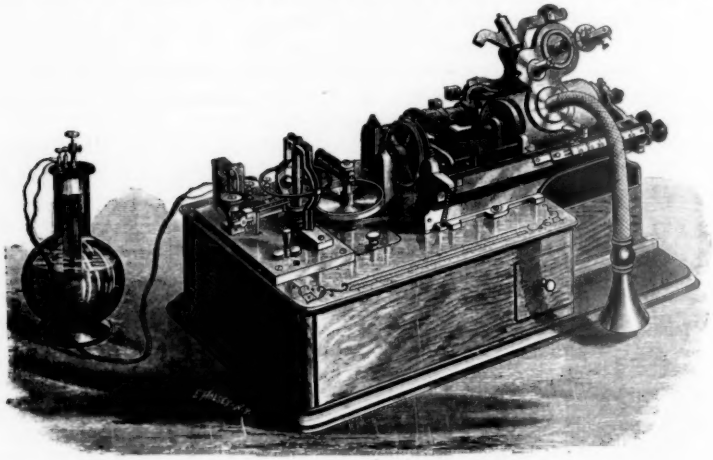
The result was analogous to that of the dwellers in Paris houses, where all classes are gathered under one roof at various elevations, the middle-classes in shops and lower stories, the working-classes in attics and cellars, and the easy and fashionable classes at the mid-height between, meeting one another on the common stair, and exchanging kindly greetings without any intimate communion, but with mutual respect. A very large part have our omnibuses played in thus assimilating the London population.

VOLUME XXVI. *10th May*, 1878

From a Paper on the Phonograph, *by* W. H. Preece (*later Sir William Preece and Chairman of Council*), *in connection with which the first public demonstration in London was given of the earliest form of gramophone.*

[Various experiments were made with the instrument, which reproduced some lines of a nursery rhyme, some remarks made by the Chairman, a verse of "God Save the Queen" sung as a duet, the notes of a bugle, some imitations of animals, &c.]

I dare say many of us have thought to ourselves, what uses can this instrument be put to. Now, it is quite evident to you that though the production of sound is very wonderful, it is not very perfect; in fact, there are some consonants that are wanting altogether. The *s* for instance at the beginning and end of a word is almost entirely lost—is entirely lost, although it is heard slightly in the middle of a word. The *d* and the *t* are exactly the same; and the same in *m* and *n*, *mane* and *name* are not distinguishable. Hence, it is extremely difficult to read what is said upon this instrument; if a person is put out of the room, and you speak into



EDISON'S IMPROVED PHONOGRAPH.

Volume XXXVII. 30*th November*, 1888. *From a Paper on the* Phonograph *by* Colonel Gouraud

it, he can with difficulty translate what it says. Still, I read distinctly on the first instrument sent over from America to me, a message that was sent to me by its inventor, Mr. Edison. It said distinctly, "How do you do? What do you think of my phonograph?" Those words were spoken into the instrument in New York, were carried across the Atlantic, and, more than a fortnight after they were uttered, I heard and translated them. But the principal purpose to which it was thought that it could be applied, viz. : to dispense with our friends the shorthand writers, is, I am afraid, still very far in the future. It has been proposed to fill libraries with speeches, with sermons, with plays recited by eminent actors, but the instrument has not yet reached that stage when such a thing is probable. It remains an extremely interesting scientific toy, a wonderful novelty. But it is only a chick. It is only three months old, and if it can do what you have heard to-night when three months old, what will it do when three years old?

VOLUME XXVII. *12th September*, 1879

From Notes on Books : Luxurious Bathing: A Sketch by Andrew W. Tuer, *with* 12 *folio etchings, initials, etc., by Sutton Sharpe. London : Field and Tuer* 1879.

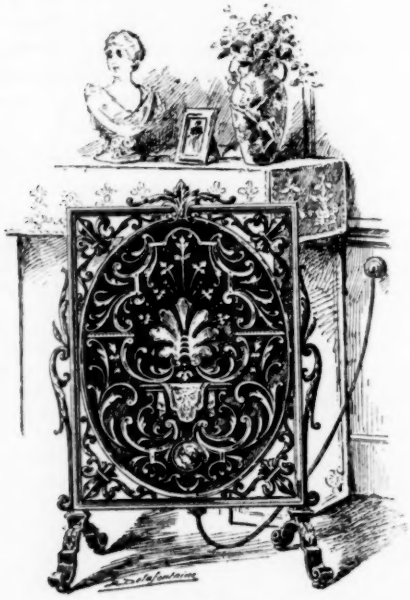
This handsome volume, in which some improvements in the art of bathing are pointed out, has been produced in an old-fashioned type, with etched capital letters, and is bound in an antique half-vellum cover. The author gives directions by means of which the greatest enjoyment may be obtained from the "daily tub"; he first treats of the "soap-bath", then of the plunge and the sponge baths, and finally tells what is to be done after the bath. Sea-bathing and swimming come in for their share of attention, and various limits are given to bathers of all classes. The author is an enthusiast for the soap-bath, and claims for it great virtues. He writes, "those who habituate themselves to the indulgence of the soap-bath, become as it were case-hardened, and can seldom be persuaded to forego their daily pleasure, much less to abandon the habit; by its use the body arrives and remains at its highest state of physical vigour; the power of resisting sudden changes of temperature is greatly increased and liability to cold correspondingly lessened, while there is an almost absolute freedom from danger of infection and epidemic attacks". The illustrations are of river scenes, and the author hopes that the common-place details of bathing will not be considered inconsistent with the character of these etchings.

VOLUME XXXII. *4th April*, 1884

From the opening remarks of the Chairman, Cardinal Manning, *at a meeting to hear a Paper on* The Dwellings of the Poor in Large Towns, *by* Elijah Hoole.

His Eminence Cardinal MANNING, in introducing Mr. Hoole, expressed his regret that he could not remain to hear the paper, as he was suffering from a severe cold. This subject, however, was of such vital importance that he could not leave without saying a few words upon it. There were a large number of earnest benevolent people who seemed to think that houses unfit for human habitations ought to be demolished at once, and better houses erected in their stead. This reminded him of a county meeting at which three resolutions were passed—(1) that a new lunatic asylum be built, (2) that it occupy the site of the old one, (3) that the patients remain in the old one until the new one be finished.

Some of these benevolent people overlooked the enormous difficulty of re-housing the labouring men of England and their families. There had been a great deal of demolition, which had only increased the overcrowding complained of. Families had been driven out into the suburbs of London, in some of which there were now as many evils as existed in Central London; others, again, had been driven into neighbouring parishes, and overcrowded them; and others had gone into other houses in the same parish, and thus rendered far more intense the evils it was sought to remedy. Benevolent zeal, therefore, required to be tempered by knowledge.



ELECTRIC RADIATOR.

Volume XLIII. 26th April, 1895. *From a paper on* The Use of Electricity for Cooking and Heating *by* R. E. Crompton

VOLUME XXXV. *3rd June*, 1887

From a Paper on The Importance of the Applied Arts, and their Relation to Common Life *by* Walter Crane.

Among the reasons for the decay of inventive and spontaneous design in the applied arts, I believe the hard and fast line which has been drawn between the artist and the craftsman is answerable, and the separation of the designer and the workman. The designer is, perhaps, kept chained to some enterprising firm. Novelties are demanded of him—something entirely new and

original—every season, but not too much so. It is not surprising that the best talents should get jaded under such influences; that fancy should become forced or fantastic, and motive weak and tame, or perhaps lost altogether in a search after superficial naturalism, in defiance of fitness to material or use. Such a Nemesis is too apt to overtake the specialized designer, who designs on paper only, without the stimulus of close acquaintance with, and practice in, some handicraft. The mere change of occupation is refreshing and invigorating, and stimulates the inventions.

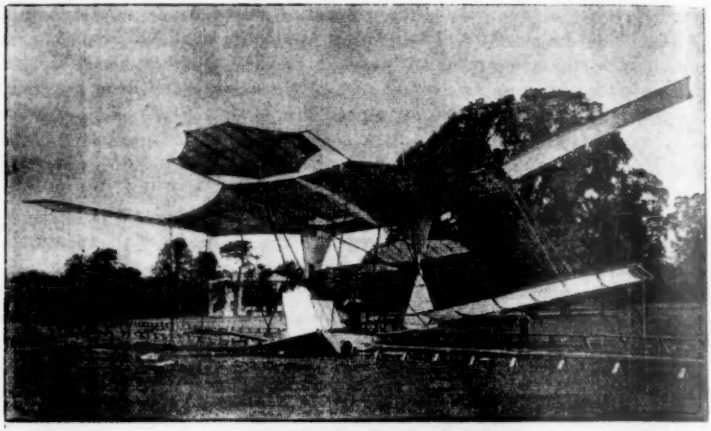
In so far as I have been successful as a designer, it has been, I believe, largely owing to my making myself acquainted with the conditions of the material in which a design was to be carried out; by striving to realize, in thought at least, the particular limitations and conditions under which it was intended to be worked; and I have always found that those very limitations, those very conditions, are sources of strength and suggestion to the invention. For I am old-fashioned enough to believe that every material has its own proper language —regarded as a medium for expression in design—and it is the business of the designer to find this out.

VOLUME XLIII. *30th November*, 1894

From a Paper on Experiments in Aeronautics *by* Hiram S. Maxim, *in which the inventor described the experiments by which he first proved that heavier-than-air flight was a practical proposition.*

When my large machine was finished it was found to weigh very nearly 8,000 lbs. while standing still, with the men, the water, and the fuel on board; but when run over the track with a steam pressure of about 275 lbs. per square inch, the weight on the track became *nil*. It will be understood that these experiments are being made on a railway track, which consists of ordinary light steel rails about 8 ft. gauge. Outside and above these rails is another track of 3 in. by 9 in. Georgia pine, the gauge being about 30 ft. The machine is provided with two complete sets of wheels, one for running on the lower steel rails, and the other for engaging the wooden track when the lower wheels have been lifted one inch clear of the steel rails. At a steam pressure of 275 lbs. per square inch, I found, in my last experiments that, after about 600 ft. of the track had been covered, that the machine vibrated, running part of the time on the lower steel rails, and part of the time on the upper track. But when the steam pressure was increased to 320 lbs. per square inch, all four of the upper wheels were kept in constant contact with the upper track, and when about 1,000 ft. had been covered, the lifting effect became so great that the rear axletrees were doubled up, the rear end of the machine lifted up about 4 ft., and finally one of the front wheels tore up about 100 ft. of the upper track, when steam was shut off, and the machine dropped to the ground without any great shock. . . .

Up to the present time my experiments have been conducted, for the most part, to ascertain whether it would be possible or not to construct a machine which would be powerful enough to raise itself into the air. When I commenced my experiments with automatic guns, the first time that the energy derived



ACCIDENT; THE MACHINE OFF THE TRACK.

from one round loaded and fired the second round, I was certain that the automatic system would be a success. Likewise, on the first occasion that my aerial apparatus lifted itself clear of the track by the energy of its own engines, I felt that the ultimate success of flying machines was assured. Several European governments have recently been experimenting with a view of navigating the air. It has long been known that if a machine could actually be made to fly at a velocity greater than that of the wind, it would be a most potent engine of war, and the nation first to make itself the master of the air would have an immense advantage over those less fortunate. Nearly all, however, have attempted to solve the question by improving the balloon, and, as a matter of fact, it has not been generally believed that a machine could be made to rise in the air without a gas bag. Now that it has been proved that a machine can be made to raise itself from the ground by its own energy after the manner of a bird, and that there is nothing whatever to prevent it travelling at a high velocity through the air, I think it will not be long before we shall have, at least, military flying machines. It will certainly not be more difficult to manœuvre and steer such machines than it is to control completely submerged torpedoes.

VOLUME XLIX. *30th November*, 1900

From a Paper on Malaria and Mosquitoes, *by* Major Ronald Ross.

It has been finely said of science that her children are born blind. Not so many years ago one of her progeny, the last born and, perhaps, the greatest of all—the science of pathology—was still almost sightless; and we ascribed diseases, without the smallest experimental proof, to all kinds of causes, such as humours, chills, miasmas, and telluric and even heavenly influences. The latter half of the century, which is now behind us—the wonderful researches of Pasteur, Lister,

Laveran, Koch, and many others scarcely less meritorious—have opened the world's eyes in this respect. Pathology has become an experimental science. We now keep diseases labelled in our laboratories; we measure them; we examine them under the microscope; we produce them in animals at will; we prevent great outbreaks and save the lives of thousands; we compel Nature herself to formulate cures for them; we put plague, cholera, typhoid, diphtheria, in bottles, so that we can hold them in our hands and look at them.

It is my privilege to describe to you to-night one of the most remarkable of these revelations. In this small glass phial I have some of the deadly fever of the West African marshes. Still more wonderful, this poison does not lie here in the form of a mist as in the days of our blindness we would have expected to find it, but in the body of some *insects*—preserved in formalin. Had these insects been living, I should have been able to convince the most obdurate sceptic of the truth of my statement. As it is, I must rely upon more gentle if less summary methods of persuasion.

VOLUME XLIX. *17th May*, 1901

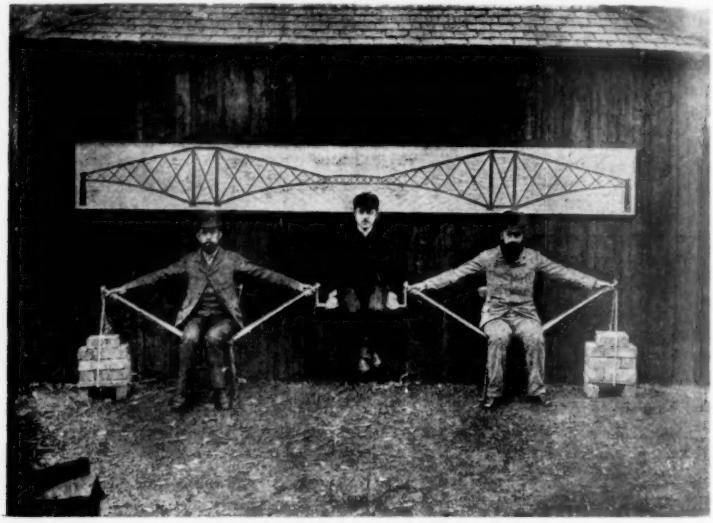
From a Paper on Syntonic Wireless Telegraphy, *by* Guglielmo Marconi, *in which he announced his successful achievement of tuned wireless telegraphy.*

It is easy to understand that if we have several receiving stations, each tuned to a different period of electrical vibration, and of which the corresponding inductance and capacity at the transmitting station are known, it will not be difficult to transmit to any one of them, without danger of the message being picked up by the other stations for which it is not intended. But, better than this, we can connect to the same vertical sending wire, through connections of different inductance, several differently tuned transmitters, and to the receiving vertical wire a number of corresponding receivers. Different messages can be sent by each transmitter connected to the same radiating wire simultaneously, and received equally simultaneously by the vertical wire connected to differently tuned receivers. This result, which I believe to be quite novel, I showed to several friends of mine, including Dr. Fleming, F.R.S., in the summer of last year, and to an Admiralty Commission. Dr. Fleming has made mention of the results I showed him, in a letter to *The Times* dated 4th October, 1900, and in his Cantor lectures delivered before the Society of Arts in November and December, 1900.

VOLUME LII. *22nd April*, 1904

From a Paper on Popular Motor-cars *by* Mervyn O'Gorman.

A friend who owned a big car asked at the last exhibition about getting a new one. He had but one stipulation, "it must have only one cylinder; if that cylinder doesn't start, I don't go out, and, therefore, I don't get caught; and if it misses fire, I know at once where to look for the trouble". "It ought to be a good sized cylinder though," he added, as an afterthought. I found that he did not want a popular car, and I did not agree; but for the cheap car when there is no question of starting on the spark, one cylinder wins the day, the more easily that all appreciable engine vibration can be eliminated *without* perfect engine balance.



LIVING MODEL OF THE FORTH BRIDGE

Volume XXXVII. 22nd February, 1889. *From a Paper on* The Forth Bridge *by* Benjamin Baker, M.Inst.C.E.

VOLUME LVII. *23rd and 30th April*, 1909.

From Questions and Answers (a section of the Journal *which had been introduced early in its career).*

Question EARTHENWARE FOR CLOTHING PURPOSES

I am interested in the various uses to which ceramic products are put in the arts, and have been told that an Indian race used earthenware for clothing purposes. Having been unable to find a reference in the works on the subject, may I appeal to the members of the Royal Society of Arts, through our "Questions and Answers" column, which has already elicited so much useful information?—CERAMOS.

Answer

"Ceramos" is correct in his recollection as to the use of earthenware as an article of clothing. There was a tribe of Brazilian Indians, living on the island of Pacoval, at the mouth of the Amazon river, whose sole covering appears to have been a piece of pottery. These curious objects are called in Portuguese "tanga", that being the name of the small apron worn by savage tribes. . . . WALTER F. REID.

VOLUME LXV. *22nd December*, 1916

From a Paper on Literature and Science in Education, *by* A. C. Benson.

There is a delightful story told of Hookham Frere, who was the lifelong friend of the great Canning. "I was walking with Canning," Frere said, "over Wimbledon Common, and we came to a little pool into which Canning gazed with a lively curiosity. 'Frere,' said he, 'what are all those funny little black

creatures crowded together and swimming about so busily?' 'Tadpoles, of course,' said I. 'These are tadpoles, are they?' said Canning. 'I have heard the name, but never saw them before. And, pray, what *are* tadpoles?' 'Well,' said I, 'they *are* tadpoles, but they *will* soon be frogs.' 'But these are not frogs,' said Canning, 'nor in the least like them; they are a sort of little fishes.' 'Don't you really know,' I said, 'that tadpoles are the young of frogs?' 'No,' said Canning, 'I never heard of such a thing; are you sure? They are the oddest little things I ever saw.' "

"Now," said Hookham Frere to his auditor, "don't you go and tell that story to the first fool you meet: Canning did not know that tadpoles turned into frogs, but he could rule a great nation, and he would not have ruled it any better or any worse if he had known. There are hundreds of things just as true and real which none of us know. It wasn't his business to know about tadpoles; it was his business to know about politics and foreign affairs, and to be a good judge of men."

VOLUME LXXIII. 12*th December*, 1924

From the report of the discussion following the reading by C. F. Elwell *of a paper on* De Forest Phonofilms or Talking Motion Pictures *and the first public demonstration in this country of talking films.*

MR. LLEWELYN B. ATKINSON (Past President of the Institution of Electrical Engineers) said he feared he could not speak as an expert in the art which had been put before the meeting. In that room during the last forty years he had assisted at demonstrations of the present kind in nearly all those arts which had gone to build up what had been presented that evening. He remembered, for instance, Captain Abney giving demonstrations of the early gelatine-bromide photography, which had made possible rapid photography and the sort of photography necessary for motion pictures. He remembered the early phonograph of Edison, the tin-foil gramophone or recording phonograph as it was called, which Colonel Gouraud had demonstrated in that room. He could not remember at the moment whether it was Sir William Preece or Sir Frederick Bramwell, both of whom were closely associated with the Royal Society of Arts, who demonstrated in that room some of the earliest telephones that he and London saw. He remembered in that room Professor Hughes with the microphone in its earlier forms again blinding them with the light of the new forces and the new experiments he had shown. He might go further over the various points that had been shown there—Senatore Marconi, for instance, with his wireless telegraphy. All those were steps towards what had been produced that night, and he congratulated Mr. Elwell on having given such a very successful first demonstration in England of the new process. He did not know which for the moment would most interest him—whether it was the further scientific developments of that art, or to hear the thoughts, expressed in words, of "Felix the Cat!"

VOLUME LXXV. 11*th February*, 1927

From a speech at a Conference on the Preservation of Ancient Cottages, *by* The Right Hon. Stanley Baldwin, Prime Minister.

It always seems to me, and especially perhaps to those of us who have been brought up in homes amidst some of the most beautiful of the old cottages of

England—I say "England" because I am not familiar with the cottage architecture of Scotland, Wales or Ireland—that it is difficult to contemplate these survivals without realising that the whole of this architecture is one of the tributaries of the main stream of medieval craftsmanship which has come down to our time, and as such is of inestimable value to us. It has an appearance in the country of spontaneous and natural growth, wholly lacking in those abortions of red brick and slate which have arisen with such alacrity over the face of the country since the industrial era began. It is an education in itself to see the adaptation of local means to the meeting of local needs and the work of local craft in a village, say, in the Cotswolds or among the South Downs in Sussex.

While we all recognise that good housing is, and ought to be, a great civilising power, we have to confess that we and our immediate ancestors have neglected it both from that point of view and from every other point of view. Neglect always has to be paid for at great price, and the neglect of the past two or three generations is being paid for to-day in hurry and too often in want of thought that have led the country directly to disaster. If I remember aright, William Morris once said that it had been his function to stain wallpapers with poetry. For the last two or three generations we have stained them with prose, and pretty bad prose at that—the kind of prose you may read in the little descriptive paragraphs that appear between the acts of a second-rate film!

We have to see if we cannot once again tap those springs of craftsmanship which have not flowed in this country for so long. It is not a hopeless task, because craftsmanship lies dormant among our people. It is there, and it has been called up here and there in various arts. I am quite certain that, if the right magician's wand were used, it would spring again into fertile being throughout the length and breadth of the country.

VOLUME LXXXIV. *5th June*, 1936

From The Trueman Wood Lecture on One Aspect of English Music, *by* Sir Walford Davies, C.V.O., O.B.E.

Self-conscious nationalism in music is an appalling thing. Perhaps it is even true that he that loveth his nationality shall lose it. And certainly a normal Englishman no more says: "I am about to write English music" than a normal gentleman says: "I am about to be a gentleman." He cannot possibly help being one.

I suppose music is at long last just creative wonderment made audible. In it we dwell on the things that surround us—on matters of life and death as they affect us. It is the loving language of a man's mind as he ponders realities. So an English composer looking out of an English window into God's Universe with an ordinary artist's wonderment can only add a note or two to the sum of man's music. If he is recklessly sincere, and felicitous, it will incidentally be an English note, upon which perchance your and my successors here may spend a pleasant hour's study together in this room of yours, a few years hence.

THE "DAILY GRAPHIC" PIGEON POST: ARRIVAL OF PIGEONS.

Volume XXXIX. 30th January, 1891. *From a Paper on* Illustrated Journalism *by* Carmichael Thomas

VOLUME LXXXVII. *13th October*, 1939

From a short article on Traces *by* Dr. E. F. Armstrong, F.R.S. (*President and Chairman of Council from* 1943–1945).

The search for gold in sea water, for the needle in a haystack, has always had its appeal. Chemists and metallurgists have long been aware of the effect of the presence of very small quantities of one element on the properties of another. Work such as that of Dr. Brenchley at Rothamsted has made us aware of the need of minimal quantities of certain elements for the satisfactory growth of plants. In the last year or so it has become recognized that animals also, including ourselves, require traces of certain elements for their well-being which hitherto had been thought to have been present in their food only as accidental and inert items. . . .

One of these is copper, which has proved to be associated with the formation of hæmoglobin, the red colouring matter of the blood. The condition of anæmia is well known; with rats it can be brought about by simple dietary restriction. The supposed remedy is iron taken in the form of iron salts, but very variable cures were obtained. Indeed, with pure iron salts the rats did not get better, whereas with small doses of liver, known to be a rich source of iron, a rapid cure was effected. Confronted with these facts Professor E. B. Hart set to work, with the zest of the detective in fiction,

to track down the curative constituent in the liver. It was soon established that it was something in the ash of the liver and nothing to do with any of its organic constituents. According to the methods of the chemists, the ash was sub-divided into fractions, which were tested separately. It appeared that one alone, containing mercury, arsenic, copper and cadmium compounds, was active, and finally the activity was traced to copper alone, no other metal was of the slightest benefit. When traces of copper are present the rats grow nearly normally; it is better to have some iron present, although iron by itself is useless. The function of the copper is apparently to make the utilization of the iron for hæmoglobin formation possible. In its absence the iron is found stored up in the liver and spleen; when it is administered new red blood cells are rapidly produced and the stores of iron are used up.

It is not wise to transfer the conclusions derived from experiments with rats directly to man, and it is therefore not certain that he requires copper. Actually, most foods which contain iron are also sources of copper, and the two elements are so hard to separate that even medicinal iron salts contain traces of copper. It is, of course, almost impossible to make experiments of this kind with man; there is at least every probability that we need traces of copper.

VOLUME XCVI. *21st November*, 1947

From a speech by Her Majesty The Queen (then Her Royal Highness The Princess Elizabeth), ***on her first visit to the Society, at the opening of the 194th Session.***

The objects to which the Royal Society of Arts addresses itself are worthy of all the support we can give. They are numerous and their scope is wide, but I will this afternoon select one for which, in particular, I would enlist your enthusiasm. It is the work of the Society in the field of industrial design. The spacious days are gone. It may well be long years before we can again afford to devote such leisure and energy as did our forefathers to things purely decorative. But we should be defeatist and unimaginative indeed if we concluded that because nearly everything we produce to-day must be severely practical, it must also be without taste or beauty. Therefore, of all the Society's valuable work I do not hesitate to attach the first importance to your encouragement of a high standard in industrial design.

A nation whose level of good sense in art was once reflected in the furniture of Chippendale and Hepplewhite, and in the domestic architecture of the eighteenth and early nineteenth centuries, cannot rest content with slavish imitations of foreign styles or with a simple faith in the virtue of stream-lining. Great Britain led the world into the industrial revolution. That was no doubt an historic contribution to human progress. But there has also been a legacy of squalor, misery and ugliness, as well as the fall in standards of taste which accompanied mass production. In a sense we have a duty to lead the world in finding the remedy, and if we are destined to live in an austere age it is for us to establish that beauty is as essential to utility as it proverbially is to truth. It is for this reason that I would repeat to you a sentence which The Prince Consort used in addressing this Society—'The Department most likely to prove immediately beneficial to the public would be that which encourages the application of the Fine Arts to our manufactures'.

GENERAL NOTES

BRITISH PAINTING: THEN AND NOW

In 1852 the Prince Consort presided over this Society's fortunes, an office graciously performed to-day by His Royal Highness the Duke of Edinburgh; and in that respect at least history comes close to repeating itself after a century's interval. Could these Royal Presidents discuss the Society's interests, there might still be common ground in the strides of science and the development of British manufactures which the Prince Consort foresaw perhaps more clearly, and did more to encourage than any of his contemporaries. But could one convey to the other any notion of the utterly changed artistic climate and values in the Fine Arts?

[By courtesy of the Manchester City Art Gallery

Holman Hunt's The Hireling Shepherd,
exhibited in the Royal Academy, 1852

In 1852 the Royal Academy's authority was still supreme in the world of British painting. Ruskin, it is true, was preparing to castigate its annual offering, and at the previous year's Academy Banquet the Prince Consort had thought it necessary to rebuke anonymous critics for "the merciless manner in which they treat works which cost those who produce them the highest efforts of mind and feeling". Nevertheless the Academy (weakened though it was by the recent death of Turner, and lately deprived of Etty) stood firmly in 1852, confident of its ability to supply the upper class and rising mercantile patrons with the "gallery" pictures they needed; and Calderon's *By the Waters of Babylon* was a typical exhibit of the year.

There were, of course, other exhibition centres. The British Artists were already established in Suffolk Street; the British Institution in Pall Mall, and the National Institution in Regent Street were showing contemporary pictures; and together with

one or two other societies, our own Society in the Adelphi provided further opportunities. But election to the Royal Academy remained the aspiration of every British artist of consequence; and it was in the six rooms set aside in the National Gallery's building in Trafalgar Square that the largest crowds gathered in the mid-century to admire the historical and animal pictures of Maclise and Landseer, to speculate on the anecdotes of Frith, Mulready, and Webster, and to find an elevated sentiment in the impassive classical marbles by the sculptors of the day.

It was against the empty rhetoric, affectation, and triviality then beginning to appear (and appearing all over Europe except in France) that the young Pre-Raphaelites revolted; and the pure and brilliant colours and microscopic exactness of Holman Hunt's *The Hireling Shepherd* and *The Pretty Baa-Lambs* of Madox Brown would only have appeared a shade less disconcerting to the 1852 Academy visitor because the Brotherhood had previously appeared there, exciting both attention and derision. Madox Brown, though a supporter, was not, however, a member of the Brotherhood, and finally exhibited at the Academy in 1853. It was rather in Hunt with his passion for Keats and the Bible, Millais for the mediæval poems of chivalry, and Rossetti for Dante, that the hopes of Ruskin and the reformers principally resided; and Millais and Hunt were to continue to exhibit at the Academy long after the initial sincerity and fervour of the movement were spent.

Not long after 1852 the Academy's standards began to be almost everywhere relaxed in appeals for favour, and Millais' *My First Sermon* might be thought to prefigure the sentimental decline. But, while Whistler's rapier thrusts failed to pierce the Academy's protective armour, some vigorous English critics began to exert their influence when the New English Art Club was formed towards the end of the century. Their inspiration, of course, was drawn from France; and the battle of Impressionism, succeeded by the even fiercer campaign of Post-Impressionism commanded here by Roger Fry and Mr. Clive Bell, made of the world of art a no-man's territory open to all irregular skirmishers.

The movements of this century that have all originated on the Continent, whether in Scandinavia, Italy, or perpetually fermenting Paris—Expressionism, Surrealism, Abstraction, and others of briefer duration—have been reflected in the work of enquiring British artists, while scarcely troubling the Royal Academy until quite recent years. In 1952 it is true to say that an abstract work by a prominent painter has almost certain chance of acceptance at Burlington House, whereas a popular ceremonial or flower-piece of little merit has practically none. But abstraction, though widely practised here by painters and sculptors, is no longer a live issue; and to-day, once more, some critics are preparing to welcome a neo-realist movement. No extension of academic naturalism is desired, but rather a searching scrutiny of life by more painters mindful of this century's discoveries: painters who would be recognized by Courbet and Manet as cousins, however far removed.

A few such serious realists are associated both with the Academy and the Royal College of Art which has done much to nourish the older institution in recent years. Rodrigo Moynihan and Ruskin Spear are younger Associates of this persuasion; and John Minton, Carel Weight, and Lawrence Gowing are other thoughtful exhibitors who interpret life around them in their own terms. Stanley Spencer and Michael Ayrton are realists too in certain aspects of their work; but Ayrton, who belonged to the young romantic group a decade ago, remains outside the Academy.

Outside its walls also are our two most conspicuous romantic painters: Graham Sutherland, an internationally known, exploring, but also very eclectic artist who has lately caught mannerisms from the individual expressionist Francis Bacon; and John Piper whose brilliant and theatrical effects are, perhaps, better suited to festival inventions than to easel-pictures. A quieter, and very feminine romanticism is also practised by such sensitive artists as Elinor Bellingham-Smith and Mary Potter.

An imaginative partial abstraction, as practised by Ceri Richards or Patrick Heron,

[*By courtesy of the Leicester Galleries*

John Piper's The Dairy, Duncombe Park,
exhibited at the Leicester Galleries, 1952

is carried to extremity in the purely formal designs of other artists who, in some instances, base their colour schemes on an observed effect of light while continuing to compose their designs out of entirely unrepresentative forms. To interpret such works to a largely unsympathetic public remains the critic's unenviable duty, as to acquire them has become the business of Councils, curators, and a greatly diminished number of private collectors.

But "I think that the most alive painting and sculpture", Henry Moore lately predicted, "from now on will go more humanist"; and if the layman, ill at ease in the little galleries about Bond Street, still thinks rather wistfully of the settled values of 1852, he may at any rate find some solace in that prediction.

NEVILE WALLIS

EXHIBITION OF VICTORIAN AND EDWARDIAN DECORATIVE ARTS

The task of collecting material for the Exhibition of Victorian and Edwardian Arts at the Victoria & Albert Museum occupied research workers for more than a year. Despite herculanean efforts they were unable to discover more than 961 objects of household use whose designers and makers could be authenticated by name and date. Eminent painters, sculptors, architects, and scholars were all engaged from time to time in designing furniture, textiles, wallpapers, carpets, metalwork, ceramics, and glassware. But so individualistic were many of their productions that one's impression of the Victorian and Edwardian decorative arts may possibly be distorted rather than clarified.

The exhibition is arranged chronologically in twenty-six classes ranging from

Summerly's art manufactures of the late 1840s to Edwardian ecclesiastical design. It was in response to an offer made by the Society of Arts in 1845 that Sir Henry Cole, under the pseudonym Felix Summerly, designed a tea service which won a silver medal at the Society's exhibition of 1846, and was made and sold commercially by Minton and Company. On view is a teacup and saucer from the original service and a tea-pot marked beneath "FS [in monogram] inv 1846", enclosed within a garter and the words "SOCIETY OF ARTS PRIZE PATTERN Minton and Co. Staffordshire" printed in red.

The success of this service was so emphatic that in 1847 Cole established The Felix Summerly Art Manufactory, which he conducted for about three years before his work in connection with the Great Exhibition caused him to abandon the enterprise. Cole's movement against "those purveyors of the useless arts" was based on his belief that public taste could be improved if manufacturers would commission well-known painters and sculptors to produce designs for objects in daily use. Immediately the two great potters, Alderman W. T. Copeland and Herbert Minton, followed his advice.

The Felix Summerly Art Manufactory is represented by seventeen objects, including six designed by Richard Redgrave, R.A., Surveyor of the Queen's Pictures, and several by John Bell, the sculptor, including Minton's well-known mustard pot *The Bitter Tongue* of 1847. Alfred Stevens, the sculptor, made several statues for Alderman Copeland to reproduce in parian ware, but none is exhibited although not yet rare. Two fine Copeland parian statuettes on view include *Innocence* by J. H. Foley, R.A., 1847; the sculptor was awarded one hundred guineas by the Art Union of London for the excellence of his reduced model.

Alfred Stevens' monster firegrate with *The Rape of Proserpine* cast in deep relief on the semi-circular back measuring 3 ft. 3 ins. wide and almost 3 feet high was commissioned and made by Henry E. Hoole and Co., Sheffield, for the Great Exhibition. This depressing piece of hardware was directly responsible for the ensuing vogue for cast-iron fireplaces combined with polished steel and bronze.

A wealth of radiant, glowing colour is diffused by both the glass and the woven textiles, visible evidence of the colour-brilliance available to mid- and late Victorian interior decorators. Until after 1845 English flint-glass was seldom coloured. Only after considerable pressure by the Society of Arts and the glass manufacturers was an oppressive duty of sixpence per pound removed, a duty which had allowed no latitude for tax-free experiments. A clear glass vase cased in white beneath royal blue glass is exhibited. This has shallow cut panels decorated with scrolls and flowers in coloured enamels and gilt. It was made by the Richardson firm of Wordsley in 1848.

The grand pianos are among some of the most remarkable pieces in the exhibition. An Edwardian example in carved oak was designed in 1910 by Sir Robert Lorimer and painted all over in transparent oils on a gilt ground by Mrs. Phœbe Traquair a year later. Mrs. Traquair was known also as an illuminator, painter, embroideress, and enameller. The high quality of her enamelling is demonstrated by the silver-gilt casket bearing plaques of painted enamel on copper representing the Parable of the Ten Virgins and set with semi-precious stones.

The furniture, notable for fine craftsmanship and material, varies in design from the pleasantly useful to the grotesquely hideous. It is interesting to see the chair designed in 1855 by Holman Hunt as a protest against commercialized ugliness. In the same year, William Butterfield, the great Victorian ecclesiastical architect, designed domestic furniture far in advance of its time: his ideas were developed years later by the Morris firm. Morris and his associates are, of course, richly represented at this exhibition.

Bruce J. Talbert, who was awarded a Society of Arts medal in 1871, was among the first of the free-lance industrial designers and the leading furniture designer of

his generation with a couple of books on the subject to his credit. Yet only one example of his furniture has come to light, a sideboard made in 1873 by Gillow.

Students of this period will find the exhibition catalogue (four shillings) rich with pointers towards further research. The exhibition remains open until January 18th, 1953.

G. BERNARD HUGHES

CITY AND GUILDS INSIGNIA AWARD

Ever since the time of the Great Exhibition the Society has greatly interested itself in technical education, both technological and commercial, and the commercial examinations which it runs to-day and has run since 1856 are the outcome of this interest.

In 1878 the Society played a part in bringing about the establishment of the City and Guilds of London Institute by the Corporation and certain of the Livery Companies of the City of London, for the advancement of technological education as an aid to industry, and in 1879 the Institute took over from the Society a small group of examinations in technological and craft subjects which the Society had inaugurated. Since then the Institute has taken a lead in developing methods of training, and in furthering education in all branches of technology through the medium of its certificates and its awards at three levels. These are the well-known Intermediate, Final and Full Technological certificates.

Believing that the time has arrived when additional encouragement and recognition in certain branches of industry could usefully be given at a higher level than that represented by its Full Technological certificates to those engaged in industry who continue to pursue their studies and to broaden their knowledge, the Institute has announced its intention to establish an "Insignia Award in Technology." In making this award the emphasis will be on technical training based primarily on practical experience, supplemented by theoretical study, as distinct from the more academic approach to training for which many educational facilities and inducements already exist. The award is intended to be a mark of distinction for those who have combined with a sound practical training an adequate knowledge of the fundamental scientific principles of their industry, and who possess a capacity for leadership and administration.

The standard of the award will be well above the existing Full Technological certificate and it is hoped that, with the co-operation and assistance of representatives of industry, it will ensure that persons receiving it will be recognized as being both trained and qualified to occupy posts of technical and executive responsibility in the class of work and in the branch of industry specified on the Warrant they will receive.

Copies of the general regulations governing the Insignia Award scheme, together with notes for the guidance of candidates, and an application form for their registration, will be sent on receipt of a stamped addressed foolscap envelope by the Director, Department of Technology (I.A.), 31, Brechin Place, South Kensington, S.W.7.

CORRESPONDENCE

THEOSOPHY AND THE INDIAN CLASSICS

From H. S.L. POLAK, 20 TOOK'S COURT, CURSITOR STREET, E.C.4

As a Fellow of the Royal Society of Arts, I was greatly interested to hear the Sir George Birdwood Memorial Lecture by Professor John Brough, on the 11th March last, on "The Study of the Indian Classics".

But as a Fellow and member of the Governing Council of the Theosophical Society, at Adyar, Madras, and with some 50 years' experience of cultural developments in India, I was astonished to hear the lecturer's remark, without supporting evidence, that "the curious development of theosophy has undoubtedly caused much harm to the reputation of Indian literature and thought".

I would unhesitatingly assert that exactly the contrary is true. There has, in fact, been a great revival of interest, in India and elsewhere, in Indian literature and thought since the Theosophical Society's foundation, over 75 years ago. This is largely due to the variety and volume of contributions by Theosophists, by lectures, writings, translations and commentaries relating to the Indian classics, such, for example, as the *Upanishads*, the *Yoga Sastras*, and the *Bhagavad Gita*. I have a selected list, from the Adyar Library Bulletin, of more than thirty such texts, by Indian and Western Theosophists. The library of Indian classical literature, religious and philosophic, at the Society's international headquarters, is one of the best-known, largest, and most highly valued in India, in both Theosophical and non-Theosophical circles.

The present Governor of Madras, no mean scholar, has lately paid a very high tribute to the Society's contribution to a wider appreciation and a better understanding of Indian thought and literature throughout the world. He and many other well-known men in the public life and universities of India would, I am sure, strongly demur to Professor Brough's statement.

In conclusion, I would draw Professor Brough's attention to an article by Mr. Francis Watson, who has considerable experience of India and her culture, in the September issue of the *Geographical Magazine*. At page 223, he states that "the modern Theosophical movement, adapting the doctrine of *karma*, did much to revive interest in the ancient texts, both in India and in the West". Mr. Watson's opinion is of some importance, and it is shared by many others.

PROFESSOR BROUGH comments :

Mr. Polak has missed the point of my remark. I was not in this place expressing an opinion on the merits of Theosophy but merely reporting a fact. Although a few Europeans have been attracted by Theosophy, it is in my experience a fact that the majority of educated people in the West are repelled by Theosophic writings. The typical educated Western reaction is in fact: "If this curious collection of dogmas represents the summit of Indian achievement in Philosophy then we can afford to dismiss it as a serious contribution to human thought". Those who can see these dogmas in their original context may, of course, take a more charitable view, but it is still a matter of opinion as to whether such dogmas are worthy of serious attention in the twentieth century as an object of belief. For the historian of Philosophy and Religion the doctrines favoured by the Theosophists undoubtedly merit study. But the whole purpose of my lecture was to indicate that the emphasis has been wrongly placed and that the most important contributions of Ancient Indian thought have in general remained unknown except to a few specialists.

I should be the last to deny the great value of the Adyar Library collection of manuscripts to Sanskrit scholarship; and it is generally acknowledged that a number of individual Theosophists have done valuable social work in India. But good works do not in themselves constitute an argument, and my original statement still stands, namely, that the majority of educated Western readers are repelled by a majority of Theosophical writings, and that these writings have in fact harmed the reputation of Indian thought in the eyes of such readers.

OBITUARY

SIR WILLIAM CLARK

We record with regret the death, on the 22nd November, of Sir William Clark, G.C.M.G., K.C.S.I., at the age of 76. He had a long and distinguished career in the Civil Service, becoming the first Comptroller-General of the Department of Overseas Trade in 1917; he was Member for Commerce and Industry of the Council of the Viceroy of India from 1910 to 1916; and in 1928 he became High Commissioner in Canada for the United Kingdom. This post was followed by that of High Commissioner for Basutoland, the Bechuanaland Protectorate, and Swaziland, from which he resigned in 1939, becoming chairman of the Imperial Shipping Committee.

He was elected a Life Fellow of the Society in 1915.

T. C. DUGDALE

We also regret to record the death, on the 13th November, of Thomas Cantrell Dugdale, R.A., at the age of 72. Mr. Dugdale was a portrait painter of distinction and also a designer, particularly of textiles; he was art adviser to Messrs. Tootal Broadhurst Lee. He received his art education in Manchester, London and Paris, and from 1901 onwards exhibited at the Royal Academy; he was elected A.R.A. in 1936 and R.A. in 1943. His work is to be found in many galleries in Great Britain and abroad; his *The Red Jacket* is in the possession of the Tate Gallery.

Both before and after his election as a Fellow of the Society in 1941 Mr. Dugdale took an active part in the Society's work. He was a member of the Council from 1941–43 and again in 1947, and was particularly concerned in the Industrial Art Bursaries Competitions and their pre-war forerunners the Competitions of Industrial Designs. He painted the portraits of Mr. J. A. Milne and Mr. G. K. Menzies which hang in the Council room.

NOTES ON BOOKS

THE EXPANSION OF THE UNIVERSE. *By Paul Couderc, translated by J. B. Sidgwick. Faber*, 1952. 30*s*

The recessional motions of distant galaxies, found to increase linearly with the distance, and the interpretation of this relationship as a consequence of a general expansion of the Universe have become widely known and have attracted much interest. This interest has no doubt been aroused to a large extent because the observations and their interpretation are inevitably linked up with the questions whether the Universe is finite or infinite and whether it has a finite or infinite duration of existence.

The volume under review was first published in French in 1950, and was awarded the Paul Pelliot prize and the Henri de Parville prize of the French Académie des Sciences. The present translation should greatly enlarge its circle of readers. The text has been brought up to date in several respects in order to incorporate results published within the past two years.

The contents divide naturally into two parts, the first dealing with the observational data and the second with their cosmological interpretation. The red shifts of the lines in the spectra of the remote galaxies and their progressive increase with distance are firmly established facts. Their interpretation as Doppler displacements due to recessional motion, involving the conception of an expansion of the Universe, has been queried. Though some of the suggested alternatives cannot be definitely disproved they are not without difficulties. The author adopts the expansion of the system of the galaxies as the most natural explanation of the observations.

The bearing of general relativity on cosmological ideas is then considered. This part of the discussion inevitably introduces some ideas that will be difficult for the general reader, as well as a number of mathematical formulæ. These formulæ should not scare the non-specialist, who will be able to follow the general line of argument without worrying overmuch about them, while they will be useful for the more advanced reader.

The instability of the static universes leads to the conclusion that there must be either expansion or contraction of the actual universe. Lemaître's conception of an original primæval atom, which underwent a titanic radioactive explosion, is discussed in some detail, and the past history of the system on this hypothesis is considered in relation to the astronomical evidence bearing upon the time-scale of the Universe. Some difficulties and uncertainties arise from present deficiencies in knowledge: the scale of magnitudes for the very faint galaxies is not sufficiently accurate; it is not definitely known whether or not intergalactic matter exists; the reality of the so-called "Cosmical constant" is not established. More precise knowledge must await completion of surveys by the Mount Palomar telescopes, the 200-inch Hale telescope and the large Schmidt telescope.

The views of Milne, of Bondi, Gold and Hoyle, and of Jordan are summarized rather briefly in an Appendix. The conception of continuous creation, entailing an infinite Universe and an infinite past duration, is of such interest that it is regrettable that more space was not given to it.

All who seek more information on these topics of absorbing interest, in which an attempt is made to investigate the past and to predict the future, can be strongly recommended to read this book. The translation from the French has been very well done.

HAROLD SPENCER JONES

UNTAKEN HARVEST. *By George Ordish. London. Constable*, 1952. 15*s*

The problem of feeding a world population which is increasing at the rate of about 50,000 per day is becoming increasingly more serious. Even at present, malnutrition or food shortage is widespread in many of the underdeveloped areas in which live some two-thirds of the world's population.

Much benefit would result now if the transfer of food from countries producing a surplus to those in need could be easily accomplished. However, the ultimate remedy lies in the increase of world food production.

Mr. Ordish deals with one way in which this could be done, namely by avoiding the losses caused by pests and diseases. The book is divided into seven chapters and first gives a brief but satisfactory summary of the types of pests and diseases attacking crops. However, the most valuable part is a study of the amount, value and economic effects of losses resulting from pests and diseases.

Figures for crop losses are seldom more than intelligent estimates and for this reason in Britain the Ministry of Agriculture has hesitated to give them. Nevertheless, if treated with reserve, such figures as $6 billion for value of crop destroyed in the United States during the year 1950 emphasize the extent of damage done by pests and diseases in a manner not possible merely by the use of superlatives.

Mr. Ordish believes that in Britain it is doubtful both whether the amount of damage done by plant pests and diseases is realized and whether such figures as he puts forward will be believed. Nevertheless, he does not hesitate to assess damage done to the main crops in the United Kingdom in 1947, and his data are striking. The total value of crops produced was just over £500 million, while the crop lost through pests and diseases was about £78 million even after nearly £10 million had been spent on control measures. However, it is emphasized that such losses are

not necessarily best expressed in terms of money but rather as a waste of land and labour. Thus, in 1947, it is estimated that the equivalent of nearly 2 million acres of arable land was cropped solely for the benefit of pests and diseases by a labour force of some 51,000 farm workers.

In view of this wastage, research and development of methods for reducing the extent of the "untaken harvest" should be welcomed by farmers, and yet not all take this point of view. Particularly in the United States and to some extent in Britain there are adherents to the view that plant pests increase the farmer's income by making crops difficult to grow and thus preventing an unsaleable surplus. However, wherever it occurs, food loss through preventable disease is a net social loss, and is particularly important in Britain whose future prosperity would probably be benefited as much by increased food production as by any other factor. As pointed out by Mr. Ordish, the cure for a surplus of one type of food is not more pest attack but readjustment of supply. For example, an increase of potato yields by reducing virus diseases, would enable the required quantity to be produced on a smaller acreage and thus free land for other needed crops. However, economic and social effects of pests and of pest control differ according to the types of crops and the country concerned, and two valuable chapters are devoted to this important problem.

A most interesting part of the book concerns the various methods of combating losses due to pests and diseases—cultural methods, development of resistant varieties, biological control and, of course, the use of chemical methods—the last named only too often being the sole means of combating the great majority of pests. The development of powerful new insecticides, fungicides and weedkillers during the last ten years is discussed, as well as techniques for applying them. Some of the notable benefits that have resulted from their use are mentioned, though perhaps insufficient reference is made to their disadvantages. For example, some are very poisonous to mammals and birds, and others may taint food crops. Moreover some insecticides destroy beneficial insects and so, in certain instances, have increased the severity of pest attack. In fact, it should be emphasized that the indiscriminate use of some of these new chemicals is to be discouraged until more is known about their general effects.

Finally, there is a chapter on the history of the trade in pest and disease control, which in Britain started in 1695, and has developed into a world-wide industry producing "pesticides" whose wholesale value is about £100 million annually.

Mr. Ordish's book is a notable contribution to a study of one of the world's major problems. Written in lucid style, it should interest the layman, and be valuable to those who are directly concerned with problems of food production.

M. J. WAY

SHORT NOTES ON OTHER BOOKS

FATHER AND DAUGHTER: JONATHAN AND MARIA SPILSBURY, 1737–1812; 1777–1820. *By Ruth Young. Epworth press*, 1952. 4*s*

Jonathan Spilsbury was a portrait painter and engraver, and his daughter a painter of portraits and *genre* scenes. This book gives a short account of their lives and work, with some illustrations.

UNDERSTANDING HEREDITY; AN INTRODUCTION TO GENETICS. *By Richard B. Goldschmidt. Chapman & Hall*, 1952. 30*s*

Professor Goldschmidt has written this "genetics primer" for those without a scientific background. He gives a list of books for further reading, and an admirably clear short glossary. The book is illustrated by diagrams.

THE BOOK OF KELLS. *By Sir Edward Sullivan. 5th ed. Studio publications*, 1952. 30*s*

A historical survey of the Book of Kells is followed by a description and analysis of the pages reproduced in the 24 colour plates. The introductions to the second and third editions, in which Sir Edward Sullivan replied to some theories of other scholars, are reprinted in this edition.

BASIC BOOKBINDING. *By A. W. Lewis. Batsford*, 1952. 12*s* 6*d*

The purpose of this small book is to cover in detail the basic methods of binding in the simpler styles. This is done with the aid of very many diagrams and photographs.

MATERIALS HANDLING IN INDUSTRY. *British Electrical Development Association*, 1952. 8*s* 6*d*

This book is one of a series, *Electricity and productivity*, dealing with specialized industrial applications of electricity. It is illustrated with photographs and diagrams.

A GUIDE TO THE HISTORY OF SCIENCE. *By George Sarton. Waltham, Mass., Chronica Botanica company*, 1952.

This very detailed bibliography of the history of science is preceded by essays on science and tradition. It covers also societies, institutes, museums, and international congresses, and is concluded with an index of proper names.

Some Meetings of Other Societies

MON. 1 DEC. Geographical Society, Royal, S.W.7. 5 p.m. G. de Q. Robin and J. J. Holtzscherer: *Depth of Polar Ice Caps.*

Engineers, Society of, at Geological Society, Burlington House, W.1. 5.30 p.m. B. R. Byrne: *The Fatigue of Metals. Facts and Theories Reviewed.*

TUES. 2 DEC. Manchester Geographical Society, 16, St. Mary's Parsonage, Manchester, 3. 6.30 p.m. George Dixon: *Switzerland Calling.*

Incorporated Plant Engineers, at the Royal Society of Arts, W.C.2. 7 p.m. B. Pheasant: *Steam versus high-pressure hot water installations.*

Electrical Engineers, Institution of, Savoy Place, W.C.2. 5.30 p.m. *Recording Instruments* (Discussion).

WED. 3 DEC. Electrical Engineers, Institution of, Savoy Place, W.C.2. 5.30 p.m. D. A. Wright: *A Survey of Present Knowledge of Thermionic Emitters.*

Victoria & Albert Museum, S.W.7. 6.15 p.m. James Laver: *Victorian Theatrical Design.*

THURS. 4 DEC. Electrical Engineers, Institution of, Savoy Place, W.C.2. 5.30 p.m. O. J. Crompton and G. A. Wallace: *Economic Aspects of Overhead Equipment for D.C. Railway Electrification.*

Chemical Engineers, Institution of, at the Technical College, Great Horton Road, Bradford. 7 p.m. J. E. Bartle: *An Account of the Factors affecting the Efficiency of Bubble-Cap Distillation Columns.*

Engineering Inspection, Institution of, at the Royal Society of Arts, W.C.2. 6 p.m. A. W. Pope: *The Gas Turbine: its present position and prospects.*

FRI. 5 DEC. Mechanical Engineers, Institution of, Storey's Gate, S.W.1. 5.30 p.m. (1) S. Y. Chung and H. W. Swift: *An Experimental Investigation into the Redrawing of Cylindrical Shells.* (2) A. B. Watts and Hugh Ford: *An Experimental Investigation of the Yielding of Strip Between Smooth Dies.*

Victoria & Albert Museum, S.W.7. 6.15 p.m. Peter Floud: *William Morris Reassessed.*

SAT. 6 DEC. Horniman Museum, Forest Hill, S.E.23. 3.30 p.m. J. W. Brailsford: *The Mildenhall Treasure.*

MON. 8 DEC. Electrical Engineers, Institution of, Savoy Place, W.C.2. 5.30 p.m. *The Maintenance of Electrical Equipment* (Discussion).

Geographical Society, S.W.7. 8.15 p.m. G. W. Murray: *Land of Sinai.*

TUES. 9 DEC. Mechanical Engineers, Institution of, Storey's Gate, S.W.1. 5.30 p.m. H. E. Merritt: *The Place of Research in the Engineering Process with particular reference to the Automobile Industry.*

British Architects, Royal Institute of, 66, Portland Place, W.1. 6 p.m. Rudolf Wittkower: *Inigo Jones: Architect and Man of Letters.*

Industrial Transport Association, at the Royal Society of Arts, W.C.2. 6.30 p.m. R. T. Wynn: *Some Aspects of Heavy Haulage.*

Electrical Engineers, Institution of, Savoy Place, W.C.2. 5.30 p.m. W. Gray and A. Wright: *Voltage Transformers and Current Transformers associated with Switchgear.*

Manchester Geographical Society, 16, St. Mary's Parsonage, Manchester, 3. 6.30 p.m. B. P. Uvarov: *The Locust Problem.*

Chadwick Trust, at St. Mary's Hospital Medical School, Norfolk Place, Paddington, W. 4.30 p.m. A. I. G. MacLaughlin: *The Prevention of Dust Diseases of the Lungs.*

WED. 10 DEC. Victoria & Albert Museum, S.W.7. 6.15 p.m. Sir Leigh Ashton: *The Centenary of the Victoria & Albert Museum.*

Wool Education Society, at the Royal Institution, W.1. 7 p.m. C. Willett Cunnington: *Wool in the Pageant of English Fashion.*

Folk-Lore Society, at University College, Gower Street, W.C.1. 7.30 p.m. S. H. Hooke: *Substitution in Ancient Myth and Ritual.*

THURS. 11 DEC. Electrical Engineers, Institution of, Savoy Place, W.C.2. 5.30 p.m. J. G. Hunter: *The Royal Festival Hall: electrical installation.*

FRI. 12 DEC. Mechanical Engineers, Institution of, Storey's Gate, S.W.1. 5.30 p.m. Nicol Gross: *Experiments on Short-radius Pipe-bends.*

Victoria & Albert Museum, S.W.7. 6.15 p.m. John Lowry: *The Japanese Influence on Victorian Design.*

Chemical Engineers, Institution of, at Caxton Hall, S.W.1. C. R. Black: *The Production of Chlorine.*

SAT. 13 DEC. Horniman Museum, Forest Hill, S.E.23. 3.30 p.m. H. F. Simon: *Chinese Shadow Plays.*